REMARKS/ARGUMENTS

Claims 1, 3-11, 23-28, and 33 are pending. Claims 1, 6, and 9 have been amended. Claims 30-32 have been canceled. New claim 33 has been added. No new matter has been added.

Claims 1, 3, 4, 6, 9, 11, 28 and 30-32 were rejected under 35 U.S.C. 103(a) as being unpatentable over Steffan et al. in view of Hance. Applicants traverse the rejection. Claim 1 recites, "imaging an object by illuminating and scanning an electron beam and detecting with detectors; extracting images of a defect candidate from images obtained by each of said detectors at said imaging step and calculating defect information of said defect candidate, said calculated defect information including defect surface shape information, pattern defect information and voltage contrast defect information; classifying said extracted defect candidate image into a first category by using said calculated defect information; classifying said extracted defect candidate image into a second category; and displaying on a screen said extracted defect candidate image together with first and second classification information, said first classification information relating to said first category, said second classification information relating to said second category, wherein said step of classifying said extracted defect candidate image into said second category is performed by comparing a circuit pattern area and a defect area, said circuit pattern area being obtained from a reference image and said defect area being obtained from said extracting step."

Among other features, claim 1 recites using three types of defect information to perform classification. That is, the claim recites, "said calculated defect information including defect surface shape information, pattern defect information and voltage contrast defect information." The calculated defect information is then used to classify "said extracted defect candidate image into a first category." Page 12, fourth paragraph and Fig. 8 describe an embodiment related to these recited features. These three types of defect information are used in conjunction with the second category (e.g., killer defect category) to provide more reliable classification.

Steffan does not disclose or suggest using "said calculated defect information" in the manner recited. In fact, it is silent about using three type of defect information, much less about using the recited defect information types ("defect surface shape information, pattern defect information and voltage contrast defect information"). Hance also does not remedy this defect of Steffan. Claim 1 is allowable at least for this reason.

Among other features, claim 6 recites, "extracting images of a defect candidate from images obtained from said detectors and calculating defect information of said defect candidate, said calculated defect information including defect surface shape information, pattern defect information and voltage contrast defect information." Steffan and Hance, along or in combination, do not disclose these features.

Claim 9 recites, "imaging an object by illuminating and scanning an electron beam and detecting with detectors; extracting defect candidates from images obtained by said detectors and calculating defect information of said defect candidate; classifying said extracted defect candidate images into a first category by using said calculated defect information; classifying said extracted defect candidate images into a second category, said second category relating to a predicted yield from said inspected object; and displaying on a single screen a distribution on said inspected object of said defect candidates classified in said first category together with first and second classification information, said first classification information relating to said first category, said second information relating to said second category."

Steffan does not disclose or suggest using "said calculated defect information" to classify the extracted defect candidate images into a first category. Hance does not remedy Steffan's defect. Claim 9 is allowable at least for this reason.

Claims 2, 7, 10 and 23-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Steffan in view of Hance, and further in view of Gleason. Claims 5, 8, and 29 were rejected under 35 U.S.C. 103(a) as being unpatentable over Steffan in view of Hance, further in view of Nishimura, further in view of Kumagai, and further in view Jarvis. Applicants traverse the rejection (claim 29 was previously canceled). Each of these rejected claims depends from one of the above independent claims 1, 6, and 9 and is allowable at least for this reason.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



George B.F. Yee, Reg. No. 37,478 for
Steve Y. Cho, Reg. No. 44,612

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 650-326-2422
SYC:km
60532058 v1